

ALTERNATING APERTURE PHASE SHIFTING PHOTOMASK
WITH IMPROVED INTENSITY BALANCING

ABSTRACT OF THE DISCLOSURE

5 The present disclosure includes describes a method
for fabricating an AAPS photomask with improved intensity
balance. The method includes forming an alternating
aperture phase shifting photomask pattern on a substrate,
including forming trenches within the substrate. The
method further includes forming a layer of antireflective
material within the bottom of at least one trench. In
one embodiment the layer antireflective material is
10 Magnesium Fluoride (MgF_2) formed using a vacuum
evaporation technique. The layer of antireflective
material formed at the bottom of the trench areas
increases the transmission of light through the trench
areas by improving light coupling into the trench.